

# Single-Port Power Over Ethernet Adapter

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## User's Guide

P/N 9034273







**Electrical Hazard:** Only qualified personnel should perform installation procedures.

**Riesgo Electrico:** Solamente personal calificado debe realizar procedimientos de instalacion.

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This product complies with the following: 47 CFR Parts 2 and 15, CSA C108.8, 89/336/EEC, EN 55022, EN 61000-3-2, EN 61000-3-3, EN 55024, AS/NZS CISPR 22, VCCI V-3.

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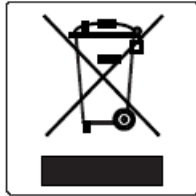
Dieses Produkt entspricht den folgenden Richtlinien: 47 CFR Parts 2 and 15, CSA C108.8, 89/336/EEC, EN 55022, EN 61000-3-2, EN 61000-3-3, EN 55024, AS/NZS CISPR 22, VCCI V-3.



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European Representative Address: **Enterasys Networks, Ltd.**  
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**EN 55024**  
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# Contents

## About This Guide

Purpose .....	xv
Who Should Use This Guide .....	xv
Document Conventions .....	xvi
Getting Help .....	xvii

## Chapter 1: Introduction

Functions and Features .....	1-1
Over Voltage/Current, Short Circuit Protection .....	1-2
Input Connector .....	1-2
Port Indicators .....	1-2

## Chapter 2: Installation and Connection

Verifying the Kit Contents .....	2-1
Technical Considerations .....	2-2
Powering Up .....	2-3
Description of LED Functions .....	2-3

## Chapter 3: Troubleshooting

Checklist .....	3-1
-----------------	-----

## Appendix A: Hardware Specifications

Regulatory Compliance Standards .....	A-1
Safety Approvals .....	A-2
Output Specifications .....	A-2
Physical/Environmental Specifications .....	A-3
Input: .....	A-3
Output: .....	A-4
Environmental: .....	A-4

## Figures

2-1	BL-69551ENT Schematic Block Diagram .....	2-3
-----	---	-----

## Tables

3-1	Troubleshooting Checklist.....	3-1
A-1	Physical and Mechanical Specifications .....	A-3



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# About This Guide

## Purpose

This document provides information and procedures on hardware installation, setup, configuration, and management of the Enterasys Networks single-port 15.4W Power Over Ethernet Adapter (BL-69551ENT).

## Who Should Use This Guide



**Electrical Hazard:** Only qualified personnel should perform installation procedures.

**Riesgo Electrico:** Solamente personal calificado debe realizar procedimientos de instalacion.

**Elektrischer Gefahrenhinweis:** Installationen sollten nur durch ausgebildetes und qualifiziertes Personal vorgenommen werden.

This document is intended for administrative and technical personnel responsible for installing and managing Enterasys Networks products.

To use this document effectively, you should have a working knowledge of Local Area Networking (LAN) concepts and wireless LAN access infrastructures. In addition, you should be familiar with the following:

- A working knowledge of basic electronics and mechanical assembly.
- An understanding of local operating and troubleshooting procedures.
- An understanding of related local building codes.

## Document Conventions

The following conventions are used in this guide:



**Note:** Calls the reader's attention to any item of information that may be of special importance.



**Caution:** Contains information essential to avoid damage to the equipment.

**Precaución:** Contiene información esencial para prevenir dañar el equipo.

**Achtung:** Verweist auf wichtige Informationen zum Schutz gegen Beschädigungen.



**Electrical Hazard:** Warns against an action that could result in personal injury or death due to an electrical hazard.

**Riesgo Electrico:** Advierte contra una acción que pudiera resultar en lesión corporal o la muerte debido a un riesgo eléctrico.

**Elektrischer Gefahrenhinweis:** Warnung vor sämtlichen Handlungen, die zu Verletzung von Personen oder Todesfällen – hervorgerufen durch elektrische Spannung – führen können!

## Getting Help

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World Wide Web	<a href="http://www.enterasys.com/services/support/">www.enterasys.com/services/support/</a>
Phone	1-800-872-8440 (toll-free in U.S. and Canada) or 1-978-684-1000  For the Enterasys Networks Support toll-free number in your country: <a href="http://www.enterasys.com/services/support/contact/">www.enterasys.com/services/support/contact/</a>
Internet mail	support@enterasys.com  To expedite your message, type <b>[other]</b> in the subject line.

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**Before contacting Enterasys Networks for technical support, have the following information ready:**

- Your Enterasys Networks service contract number
- A description of the failure
- A description of any action(s) already taken to resolve the problem (e.g., changing mode switches, rebooting the unit, etc.)
- The serial and revision numbers of all involved Enterasys Networks products in the network

- A description of your network environment (layout, cable type, etc.)
- Network load and frame size at the time of trouble (if known)
- The device history (i.e., have you returned the device before, is this a recurring problem, etc.)
- Any previous Return Material Authorization (RMA) numbers

# 1

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## *Introduction*

### **Functions and Features**

The Enterasys BL-69551ENT Single-Port Power Over Ethernet Adapter supports applications in which AC power is difficult to access, such as VoIP phones, wireless LAN access points or Internet security cameras.

The Single-Port Power Over Ethernet Adapter acts as a “patch panel” and adds ~48 VDC to unused (non-data) wires in a standard Category 5, 5e, or 6 Ethernet cable. The BL-69551ENT delivers both data and power over a single standard Ethernet cable.

Main features of the Single-Port Power Over Ethernet Adapter include:

- Fully Compliant with IEEE 802.3af
- Diagnostic LEDs
- Non-Vented Case
- Legacy Detection (Optional)

- Removable Power Cord w/IEC Connector
- IOL Test Report
- Full Protection OTP, OCP, OVP
- Data and Power carried over one Ethernet Cable
- AC Disconnect (Optional)
- Integrated Mounting brackets

### **Over Voltage/Current, Short Circuit Protection**

Outputs equipped with short circuit protection and overload protection as per 802.3af specification. The output can be shorted permanently without damage.

### **Input Connector**

IEC320 inlet 3 pin

### **Port Indicators**

The port has its own LEDs which display the following:

- LED #1 indicator for input power “on” (green)
- LED #2 indicator for fault (red)
- LED #3 indicator that detected and connected to valid IEEE 802.3af load (green)

For more information on troubleshooting, refer to [Table 3-1](#) on page 3-1.

# 2

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## *Installation and Connection*



**Electrical Hazard:** Only qualified personnel should install or service this unit.

**Riesgo Eléctrico:** Solamente personal capacitado debe de instalar o darle servicio a esta unida.

**Elektrischer Gefahrenhinweis:** Installationen oder Servicearbeiten sollten nur durch ausgebildetes und qualifiziertes Personal vorgenommen werden.

### **Verifying the Kit Contents**

Unpack the adapter and verify that you have all of the following items:

- Single-Port Power Over Ethernet Adapter
- IEC Power cord
- This User's Guide

## Technical Considerations

Before you mount the adapter to a fixed location, consider the following:

- Determine optimal placement.
- Collect and document network information as required.
- Ensure the cable length from the Ethernet network source to the powered device does not exceed 100 meters.



**Note:** The unit is not a repeater and does not amplify the Ethernet data signal.



**Caution:** Observe the following requirements when mounting the Enterasys Single-Port Power Over Ethernet Adapter.

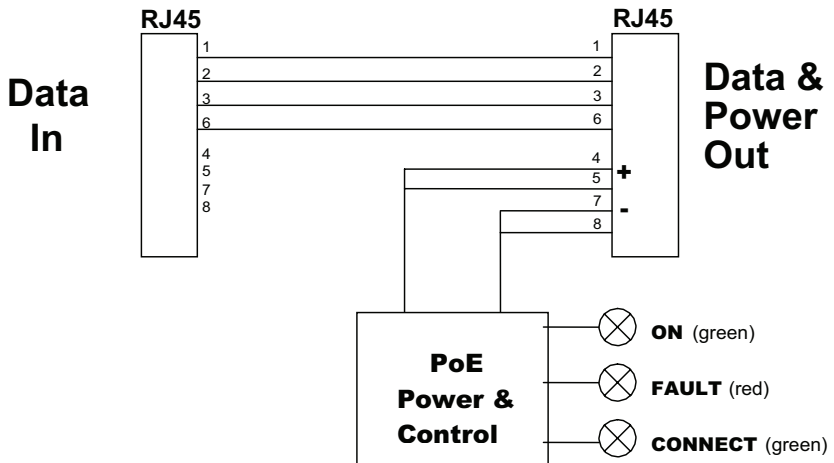
- Connect the unit to a grounding type AC outlet (100 -240 VAC), using the standard power cord or power supply supplied.
- Allow for easy access to disconnect the unit from the AC outlet, if necessary.
- Do not cover the unit or block the airflow with any other objects. Keep the unit away from excessive heat, humidity, vibration and dust.
- Installation must at all times conform to local regulations.
- There are no user serviceable parts inside the adapter. If support is needed, refer to “[Getting Help](#)” on page xvii.



## Powering Up

Simply plug one end of the power cord or power supply into the unit, and the other end into a grounded AC power source. Units are typically connected to a power strip or other power outlet that may be cycled on and off. An uninterruptible power supply (UPS) may be used.

**Figure 2-1 BL-69551ENT Schematic Block Diagram**



## Description of LED Functions

### Power-up Sequence

Upon power-up, all 3 LEDs will light for 2 seconds, as part of the self-test for the internal microprocessor software. After the end of the 2 seconds, the "ON" LED will illuminate green, signifying that the DC output voltage is available for powering a compliant load (to the 802.3af PoE standards).

## Detection Sequence

Once a compliant load is attached to the output RJ45 connector, the green “CONNECT” LED will illuminate.

Should the load be non-compliant, then the LEDs will blink a code signifying the cause for non-detection.

## Detection Failure Codes

1. Incorrect resistive signature – The green “CONNECT” and red “FAULT” LEDs will blink 3 times.
2. Incorrect capacitive signature – The green “ON” LED will blink 3 times.
3. Incorrect Voffset – The green “CONNECT” and green “ON” LEDs will blink 3 times.
4. Unstable current measurement – The green “ON” LED will blink 3 times.
5. Low voltage sensed during detection (overload) – The red “FAULT” LED will blink 3 times.

After the LEDs blink 3 times the BL-69551ENT will continue to try to detect a valid load. Therefore, until the correct load is applied, the LEDs will continue to blink. If there is an open circuit connected to the output RJ45, then the LEDs will not blink but the BL-69551ENT will continue to try to detect a valid load.

## Fault Sequence

Should there be a fault such as an overload or short circuit, then the red “FAULT” LED will illuminate. The red “FAULT” LED will illuminate for 2 seconds and then go off as the power supply tries to re-detect a valid load. If there is a problem in detecting, the LED will indicate what is wrong with the load as per the codes in the section above.

# 3

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## Troubleshooting

### Checklist

Refer to [Table 3-1](#) for a checklist of problems and recommended actions to resolve the problem. If additional support is needed, refer to “[Getting Help](#)” on page xvii.

**Table 3-1 Troubleshooting Checklist**

<b>Problem</b>	<b>Recommended Action</b>
Unit is plugged into the Enterasys Single-Port Power Over Ethernet Adapter, but main power indicator is “off.”	Verify the use of a good AC cable with a good ground connection. Verify that the AC is “hot” and that voltage is from 100 VAC to 264 VAC (50 Hz to 60 Hz.)

**Table 3-1 Troubleshooting Checklist (continued)**

Problem	Recommended Action
<p>The Single-Port Power Over Ethernet Adapter operates but one of the powered devices does not work.</p>	<p>Verify that you are using a standard UTP Cat. 5 or greater cable, including all 8 wires (4 pairs.)</p> <p>Try using a different Ethernet cable. If it works, there is probably a faulty connection over the long cable, or a bad RJ45 connection.</p> <p>Insure that your load device works with an 802.3af compliant product (such as the RBT-1002, RBT-1602, RBT-4102, and RBT3K).</p>
<p>The Single-Port Power Over Ethernet Adapter operates and the load device works, but there is no data link.</p>	<p>Verify that the indicator for the port is “on.”</p> <p>Verify that the Single-Port Power Over Ethernet Adapter is connected to the Ethernet network with a good connection.</p> <p>Verify that the Ethernet cable is Category 5 or greater, and is less than 100 meters in length from the Ethernet source to the load.</p> <p>Try to connect a different device over the same port. If it works and link is established, there is probably a faulty data link in the load.</p> <p>If possible, try to connect the load device into a different unit. If it works, there is probably a faulty output or input port in the Single-Port Power Over Ethernet Adapter or a bad RJ45 connection.</p>

**Table 3-1 Troubleshooting Checklist (continued)**

<b>Problem</b>	<b>Recommended Action</b>
<p>The Single-Port Power Over Ethernet Adapter operates and the load device works, but there is no data link.</p>	<p>Verify that the indicator for the port is “on.”</p> <p>Verify that the Single-Port Power Over Ethernet Adapter is connected to the Ethernet network with a good connection.</p> <p>Verify that the Ethernet cable is Category 5 or greater, and is less than 100 meters in length from the Ethernet source to the load.</p> <p>Try to connect a different device over the same port. If it works and link is established, there is probably a faulty data link in the load.</p> <p>If possible, try to connect the load device into a different unit. If it works, there is probably a faulty output or input port in the Single-Port Power Over Ethernet Adapter or a bad RJ45 connection.</p>





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## ***Hardware Specifications***

This appendix lists the BL-69551ENT Single-Port Power Over Ethernet Adapter hardware and electrical specifications.

### **Regulatory Compliance Standards**

This equipment meets the following safety and electromagnetic compatibility (EMC) requirements:

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Safety	UL 60950, CSA C22.2 No. 60950, 73/23/EEC, EN 60950, IEC 60950
Electromagnetic Compatibility (EMC)	47 CFR Parts 2 and 15, CSA C108.8, 89/336/EEC, EN 55022, EN 61000-3-2, EN 61000-3-3, EN 55024, AS/NZS CISPR 22, VCCI V-3

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## Safety Approvals

The equipment meets the following safety approvals:

- |          |       |       |
|----------|-------|-------|
| • cUL/UL | • CCC | • FCC |
| • CE     | • TUV | •     |



## Output Specifications

Model	DC Output Voltage	Load		Regulation	
		Min.	Max.	Line	Load
BL-69551ENT	48V	0A	0.35A	±4%	
Ripple and Noise*				Vp-p*	
<500Hz				0.5	
500Hz-150KHz				0.15	
150KHz-500KHz				0.15	
500KHz-1MHz				0.1	

\*. As per IEEE802.3af Table 33-5. For Legacy detection or AC disconnect please contact the factory. Enterasys Networks is not responsible for any error and change. Content is subject to change without notice. Please visit [www.enterasys.com/services/support/](http://www.enterasys.com/services/support/) for the most up-to-date specifications.



## Physical/Environmental Specifications

Table A-1 provides physical and mechanical specifications for the Single-Port Power Over Ethernet Adapter.

**Table A-1 Physical and Mechanical Specifications**

Item	Specification
Length:	140 mm (5.51 in.)
Width:	65 mm (2.55 in.)
Height:	36 mm (1.42 in.)
Weight:	0.2 Kg (0.44 lb)

### Input:

#### AC Input Voltage Range

90 to 264VAC

#### AC Input Voltage Rating

100 to 240VAC

#### AC Input Current

0.5A(RMS) max. for 90VAC

0.35A(RMS) max. for 240VAC

#### Leakage Current

0.25mA max. @ 254VAC 60Hz

#### AC Input Frequency

47-63Hz

### **AC Inrush Current**

15A(RMS) max. for 115VAC

20A(RMS) max. for 230VAC

## **Output:**

### **Total Output Power**

15.4W

### **Efficiency**

65% (typical) at Max. load, and 120VAC 60Hz

### **Hold-up Time**

16mS min. 120VAC and max. load

### **Transient O/P Voltage Protection**

60V max. at switch on and off at any AC line Phase

## **Environmental:**

### **Temperature**

Operation 0 to +40°C (32° to 105° F)

Non-operation -25 to +65°C (-13° to 149° F)

### **Humidity**

Operation 5 to 90%

### **EMC**

FCC Part 15 Class B

EN55022 Class B

**Isolation Test**

Primary to Secondary: 3000VAC for 1 minute 10mA

Primary to F.G.: 1500VAC for 1 minute

Output to F.G.: 1500VAC

**Immunity EN50082-1**

ESD: EN61000-4-2. Level 3

RS: EN61000-4-3. Level 2

EFT: EN61000-4-4. Level 2

Surge: EN61000-4-5. Level 3

CS: EN61000-4-6. Level 2

Voltage Dips EN61000-4-11

Harmonic: EN61000-3-2

**Insulation Resistance**

Primary to secondary: >10M OHM 500VDC

Primary to FC: >10M OHM 500VDC

